

Latest Ocean Warming Review Reveals Extent of Impacts on Nature and Humans

A 2016 report by the International Union for Conservation of Nature (IUCN) confirms a grim reality for our planet: the continuing warming of our oceans is having a devastating impact on our planet's entire ecosystem, and the problem will only get worse. The overview of the article says:

Ocean warming is affecting humans in direct ways and the impacts are already being felt, including effects on fish stocks and crop yields, more extreme weather events and increased risk from water-borne diseases, according to what has been called the most comprehensive review available on the issue. (IUCN, 2016)

Inger Andersen, director general of the IUCN, adds, "The only way to preserve the rich diversity of marine life, and to safeguard the protection and resources the ocean provides us with, is to cut greenhouse gas emissions rapidly and substantially" (IUCN, 2016).

More Resources

Use the following resources to conduct your research.

- **"Global Warming" (ScienceDaily, n.d.):** www.sciencedaily.com/terms/global_warming.htm
- **"Main Greenhouse Gases" (Center for Climate and Energy Solutions, n.d.):** www.c2es.org/facts-figures/main-ghgs
- **"Global Greenhouse Gas Emissions Data" (United States Environmental Protection Agency, n.d.):** www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data
- **"2016 May Be Hottest Year Yet: Global Warming at an 'Unprecedented' Pace in a Millenium [sic], NASA Says" (E, 2016):** www.natureworldnews.com/articles/27988/20160902/2016-hottest-year-global-warming-unprecedented-pace-millenium-nasa.htm

Discussion Questions

Use the following questions to facilitate your classroom discussion.

- *What outcome would you predict if our oceans continue to warm if nothing can be done to stop it?*
- *What have we done in the past in global and international communities to guard against global warming? How successful have these efforts been?*
- *How do your own personal activities or those of your family affect global warming?*
- *What are some of the hidden or unseen costs and effects of global warming?*

Global Digital Citizen Assessment Framework

Use this four-phase assessment framework to establish the connection between environmental stewardship and global awareness and action.

1. **Phase 1 (awareness, connection, remembering):** Has an awareness of some of the environmental issues and, when encouraged, may participate in activities to reduce or raise awareness of them

2. **Phase 2 (understanding, applying):** Has an interest in and understanding of some environmental issues; supports local environmental activities, sometimes taking a stand on significant issues
3. **Phase 3 (analyzing, evaluating):** Shows an interest in global environmental issues and investigates causes or concerns before offering support; often takes a stand on current matters, undertaking appropriate actions that raise awareness; sometimes shows stewardship of his or her world
4. **Phase 4 (evaluating, creating):** Shows an active interest in global environmental issues; validates causes or concerns before offering support; takes a stand on matters of importance, undertaking appropriate actions that raise awareness of concerns through legitimate and appropriate means; shows stewardship, care, and responsibility for his or her world; thinks globally while acting locally

Discussion and Assessment Debrief

After conversation, students develop their own opinions about the assessment.

- *How did you evaluate this line from the assessment framework and why?*
- *How does the line from the assessment framework fit into the conversation?*
- *What does it mean for us? For the community? For the world?*

References

Center for Climate and Energy Solutions. (n.d.). *Main greenhouse gases*. Accessed at www.c2es.org/facts-figures/main-ghgs on January 16, 2017.

E, J. (2016, September 2). *2016 may be hottest year yet: Global warming at an 'unprecedented' pace in a millenium [sic], NASA says*. Accessed at www.natureworldnews.com/articles/27988/20160902/2016-hottest-year-global-warming-unprecedented-pace-millenium-nasa.htm on January 16, 2017.

International Union for Conservation of Nature. (2016, September 6). *Latest ocean warming review reveals extent of impacts on nature and humans*. Accessed at www.sciencedaily.com/releases/2016/09/160906085016.htm on January 16, 2017.

ScienceDaily. (n.d.). *Global warming*. Accessed at www.sciencedaily.com/terms/global_warming.htm on January 9, 2017.

United States Environmental Protection Agency. (n.d.). *Global greenhouse gas emissions data*. Accessed at www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data on January 16, 2017.